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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/558,432

**Applicant(s)**

BAEK ET AL.

**Examiner**

CHRISTOPHER T. WYLLIE

**Art Unit**

2419

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-8, 10-12 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 10-12 and 14-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED OFFICE ACTION**

1. This action is responsive to the communication received on October 15<sup>th</sup>, 2008. This amendment has been entered and fully considered. Claims 1, 6-8, 10, and 14 have been amended. Claims 5, 9, 13, and 18 have been cancelled. Claims 1-4, 6-8, 10-12, and 14-17 are again presented for examination.
2. Applicant's arguments filed October 15<sup>th</sup>, 2008 have been fully considered, but are deemed to be moot in view of the new grounds of rejection which is necessitated by the amendment.
3. Application 10/558,432 is a 371 of PCT/KR04/01152 (05/14/2004) and claims priority to Foreign Applications 10-2004-0022208 (03/31/2004) and 10-2004-0034962 (05/30/2003) from the Republic of Korea.

**Note:** Claim 14 recites the term "a storage means", which is not given a specific definition in the specification. Therefore, for the purposes of examination, the storage means will be interpreted as a tangible medium memory (RAM and/or ROM) or another type of tangible storage device.

***Claim Objections***

4. Claims 15-17 are objected to because of the following informalities:  
Claim 14 recites the term "the storage medium" which should be changed to ---the storage means--- or ---said storage means---. Claims 16-17 have a similar issue.  
Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 1 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (A New Control Protocol for Home Appliances - LnCP -2001) in view of Muchow (US 7,421,478).

Regarding claim 1, Lee et al discloses at least two electric devices (**see p. 287, Figure 1 the Network Manager and the Refrigerator**) and a network based on a predetermined protocol for connecting the electric devices (**see Abstract, lines 1-9 [the protocol linking all the devices is LnCP and uses the power line as a network bus]**), wherein a message transmitted between one device and the other device comprises a command code field implying an operation that is to be performed by the other device and an argument field (**see p. 287 column 2, lines 29-35 and Figure 7a., Request message [the master device (the network manager) sends the slave (the refrigerator) a request message that includes a Command Code Field and an Argument Field that causes the device to perform an operation]**). Lee et al. does not disclose that the argument field is extendable according to a version of a protocol. However, Muchow discloses a similar feature (**column 21, lines 46-62 [the version number field indicates the protocol version number of the message; if the initial version's value is 0, the extended header length field would also be 0 indicating that this version is the basic version of the protocol; however, as the version number increases (which indicates an updated version of the protocol that in turn changes the message contents and formats) the message header length increases to account for the updated version of the protocol; devices using lower versions are still able to process the fields that are known which enables backward and forward compatibility]**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Muchow into the system of

Lee et al. The method of Muchow can be implemented by enabling the argument field to increase or decrease in length based on the protocol version that is implemented. The motivation for this is to enable backward and forward compatibility of the devices on the home network.

Regarding claim 14, Lee et al. discloses a storage means for storing a message structure in a home network system (see **Abstract, lines 16-19 [the microprocessor has memory for storing information]**), the home network system including at least two electric devices (see p. 287, **Figure 1 the Network Manager and the Refrigerator**) and a network based on a predetermined protocol for connecting the electric devices (see **Abstract, lines 1-9 [the protocol linking all the devices is LnCP and uses the power line as a network bus]**), wherein a message transmitted in the home network system comprising a command code field and an argument field for executing the command code (see p. 287 column 2, lines 29-35 and **Figure 7a., Request message [the master device (the network manager) sends the slave (the refrigerator) a request message that includes a Command Code Field and an Argument Field]**). Lee et al. does not disclose that the argument field is extendable according to a version of a protocol. However, Muchow discloses a similar feature (column 21, lines 46-62 **[the version number field indicates the protocol version number of the message; if the initial version's value is 0, the extended header length field would also be 0 indicating that this version is the basic version of the protocol; however, as the version number increases (which indicates an updated version of the protocol that in turn changes the message contents and formats)**

**the message header length increases to account for the updated version of the protocol; devices using lower versions are still able to process the fields that are known which enables backward and forward compatibility]).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Muchow into the system of Lee et al. The method of Muchow can be implemented by enabling the argument field to increase or decrease in length based on the protocol version that is implemented. The motivation for this is to enable backward and forward compatibility of the devices on the home network.

Regarding claim 15, the references as applied above disclose all the claimed subject matter recited in claim 14. However, Muchow further discloses that the version of the protocol applied to the electric device is the lowest version, the argument field comprises only a basic argument field for the version of the protocol **(column 21, lines 46-62 [the version number field indicates the protocol version number of the message; if the initial version's value is 0, the extended header length field would also be 0 indicating that this version is the basic version of the protocol])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further implement the method of Muchow into the system of Lee et al. The method of Muchow can be implemented by enabling the argument field to increase or decrease in length based on the protocol version that is implemented. The motivation for this is to enable backward and forward compatibility of the devices on the home network.

9. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (A New Control Protocol for Home Appliances -LnCP -2001 ) in view of Muchow (US 7,421,478) as applied to claim 1 above, and further in view of the background of Kim (US 7,062,531).

Regarding claim 2, the references as applied above disclose all the claimed subject matter recited in claim 1, but do not disclose that the other electric device receives the message, extracts the arguments from the argument field and processes the arguments. However, the background of Kim discloses such a feature **(see column 2, lines 6-13 [the modem forwards the request message to the selected domestic appliance and extracts the LnCP body of the message and determines whether or not the order or command code is for itself, if it is the domestic appliance performs the operation])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was to implement the method as described by the background of Kim into the system of the references as applied above. The method of the background of Kim can be implemented by enabling the refrigerator (or slave device) to extract the body of the LnCP message and process the instructions in the argument field of the body. The motivation for this is to enable the device to execute the request.

Regarding claim 3, the references as applied above disclose all the claimed subject matter recited in claim 2. However, Muchow further teaches the other device discards arguments not extracted from the argument field **(column 21 , lines 59-61**

**[nodes only process the fields that are known using their current protocol version; they disregard the remainder]]).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further implement the method as described by Muchow. The method of Muchow can be implemented by enabling a slave device operating on the lower protocol version to extract the parameters (or arguments) relevant to its current protocol version and discard or disregard the remainder of the parameters in order to process the request of the master device which is operating on an updated protocol version.

Regarding claim 4, Lee et al. discloses that when the arguments in the argument field are deficient, the other electric device sets the deficient arguments as predetermined values **(see Figure 7b. Response Message and p. 290, lines 36-42 [the input arguments form the network manager become deficient after the refrigerator (or slave device) executes the command code and replaces the input arguments with either an ACK or NAK and return arguments])**).

10. Claims 6-8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (A New Control Protocol For Home Appliances -LnCP -2001 ) in view of Muchow (US 7,421,478) and in view of the background of Kim (US 7,062,531).

Regarding claim 6, Lee et al. discloses an electric device **(see p. 287, Figure 1 the Refrigerator)** based on a predetermined protocol **(see Abstract, lines 1-9 [the protocol linking all the devices is LnCP])** including at least a lower layer **(see p. 287,**

**Figure 1, the Network Manager [the network manager is part of the physical layer]] and a upper layer (see Abstract, lines 1-9 [the power line is the data link layer and is used as a network bus]), wherein the upper layer receives from the lower layer a message including a command field implying an operation that is to be applied by the electric device and an argument field (see p. 287 column 2, lines 29-35 and Figure 7a., Request message [the master device (the network manager) sends via the data link layer (the Power Line Bus) a request message that includes a Command Code Field and an Argument Field to the slave (the refrigerator)]).** Lee et al. does not disclose that the argument field is extendable according to a version of a protocol. However, Muchow discloses a similar feature (column 21, lines 46-62 [the version number field indicates the protocol version number of the message; if the initial version's value is 0, the extended header length field would also be 0 indicating that this version is the basic version of the protocol; however, as the version number increases (which indicates an updated version of the protocol that in turn changes the message contents and formats) the message header length increases to account for the updated version of the protocol; devices using lower versions are still able to process the fields that are known which enables backward and forward compatibility]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Muchow into the system of Lee et al. The method of Muchow can be implemented by enabling the argument field to increase or decrease in length based on the protocol version that is implemented.

The motivation for this is to enable backward and forward compatibility of the devices on the home network.

The references as applied above do not disclose that the other electric device receives the message, extracts the arguments from the argument field and processes the arguments. However, the background of Kim discloses such a feature **(see column 2, lines 6-13 [the modem forwards the request message to the selected domestic appliance and extracts the LnCP body of the message and determines whether or not the order or command code is for itself, if it is the domestic appliance performs the operation])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was to implement the method as described by the background of Kim into the system of the references as applied above. The method of the background of Kim can be implemented by enabling the refrigerator (or slave device) to extract the body of the LnCP message and process the instructions in the argument field of the body. The motivation for this is to enable the device to execute the request.

Regarding claim 7, the references as applied above disclose all the claimed subject matter recited in claim 6. However, Muchow further discloses that the upper layer is configured to discard arguments not extracted from the argument field. However, Muchow further teaches the other device discards arguments not extracted from the argument field **(column 21 , lines 59-61 [nodes only process the fields that are known using their current protocol version; they disregard the remainder])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further implement the method as described by Muchow. The method of Muchow can be implemented by enabling a slave device operating on the lower protocol version to extract the parameters (or arguments) relevant to its current protocol version and discard or disregard the remainder of the parameters in order to process the request of the master device which is operating on an updated protocol version.

Regarding claim 8, Lee et al. further discloses that when the arguments in the argument field are deficient, the other electric device sets the deficient arguments as predetermined values **(see Figure 7b, Response Message and p. 290, lines 36-42 [the input arguments form the network manager become deficient after the refrigerator (or slave device) executes the command code and replaces the input arguments with either an ACK or NAK and return arguments])**.

Regarding claim 10, Lee et al. discloses a method for processing a message in a home network system, the home network system including at least two electrical **devices (see p. 287, Figure 1 the Network Manager and the Refrigerator) and a network based on a predetermined protocol for connecting the devices (see Abstract, lines 1-9 [the protocol linking all the devices is LnCP and uses the power line as a network bus])**, the method comprising generating an transmitting, at one electrical device a message including a command code field implying an operation that is to be performed by the other electric device and an argument field **(see p. 287 column 2, lines 29-35 and Figure 7a., Request message [the master device (the network**

**manager) generates and sends the slave (the refrigerator) a request message that includes a Command Code Field and an Argument Field)).** Lee et al. does not disclose that the argument field is extendable according to a version of a protocol. However, Muchow discloses a similar feature **(column 21, lines 46-62 [the version number field indicates the protocol version number of the message; if the initial version's value is 0, the extended header length field would also be 0 indicating that this version is the basic version of the protocol; however, as the version number increases (which indicates an updated version of the protocol that in turn changes the message contents and formats) the message header length increases to account for the updated version of the protocol; devices using lower versions are still able to process the fields that are known which enables backward and forward compatibility])).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Muchow into the system of Lee et al. The method of Muchow can be implemented by enabling the argument field to increase or decrease in length based on the protocol version that is implemented. The motivation for this is to enable backward and forward compatibility of the devices on the home network.

The references as applied above do not disclose that the other electric device receives the message, extracts the arguments from the argument field and processes the arguments. However, the background of Kim discloses such a feature **(see column 2, lines 6-13 [the modem forwards the request message to the selected domestic**

**appliance and extracts the LnCP body of the message and determines whether or not the order or command code is for itself, if it is the domestic appliance performs the operation]]).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was to implement the method as described by the background of Kim into the system of the references as applied above. The method of the background of Kim can be implemented by enabling the refrigerator (or slave device) to extract the body of the LnCP message and process the instructions in the argument field of the body. The motivation for this is to enable the device to execute the request.

Regarding claim 11, the references as applied above disclose all the claimed subject matter recited in claim 10. However, Muchow further discloses that the upper layer is configured to discard arguments not extracted from the argument field. However, Muchow further teaches the other device discards arguments not extracted from the argument field **(column 21 , lines 59-61 [nodes only process the fields that are known using their current protocol version; they disregard the remainder])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further implement the method as described by Muchow. The method of Muchow can be implemented by enabling a slave device operating on the lower protocol version to extract the parameters (or arguments) relevant to its current protocol version and discard or disregard the remainder of the parameters in order to process the request of the master device which is operating on an updated protocol version.

Regarding claim 12, Lee et al. further discloses that when the arguments in the argument field are deficient, the other electric device sets the deficient arguments as predetermined values **(see Figure 7b. Response Message and p. 290, lines 36-42 [the input arguments form the network manager become deficient after the refrigerator (or slave device) executes the command code and replaces the input arguments with either an ACK or NAK and return arguments])**).

11. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (A New Control Protocol For Home Appliances -LnCP -2001 ) in view of Muchow (US 7,421,478) as applied to claim 14 above, and further in view of Walton et al. (US 5,519,858).

Regarding claim 16, the references as applied above disclose all the claimed subject matter recited in claim 14, but do not disclose when a lower version of the protocol applied to the electric device exist, the argument field comprises a basic argument field for the lower version of the of the protocol and an extend argument field for the version of protocol. However, Walton et al. discloses such a feature **(column 12, lines 20-25 [the length of the argument field indicates the number of digits in the address portion of a particular request, the network addresses can be fixed length or vary in length, depending upon the network protocol associated with each particular address])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Walton et al. into the system

of the references as applied above. The method of Walton et al can be implemented by enabling the Network Manager to vary the length of the argument field based on the protocol associated with the address of the refrigerator. The motivation for this is to enable the Network Manager to be adaptable to the various protocol versions used in the network.

Regarding claim 17, the references as applied above disclose all the claimed subject matter recited in claim 16. However, Muchow further discloses that the message including the extend argument field is an extendable message included in the protocol (column 21, lines 46-62 [the version number field indicates the protocol version number of the message; if the initial version's value is 0, the extended header length field would also be 0 indicating that this version is the basic version of the protocol; however, as the version number increases (which indicates an updated version of the protocol that in turn changes the message contents and formats) the message header length increases to account for the updated version of the protocol; devices using lower versions are still able to process the fields that are known which enables backward and forward compatibility]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Muchow into the system of Lee et al. The method of Muchow can be implemented by enabling the argument field to increase or decrease in length based on the protocol version that is implemented.

The motivation for this is to enable backward and forward compatibility of the devices on the home network.

***Conclusion***

12. Applicant's arguments filed October 15<sup>th</sup>, 2008 have been fully considered, but are deemed to be moot in view of the new grounds of rejection which is necessitated by the amendment.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER T. WYLLIE whose telephone number is (571) 270-3937. The examiner can normally be reached on Monday through Friday 8:30am to 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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